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first part of the paper deals with the author's visits to Florida and his own and others' observations on the habits of the alligator.

The times of laying lie between June 9th and 17th, "while it is probable their eggs are occasionally laid somewhat later. I doubt if they are ever laid much before the 9th."

The nest is very large and is built by the female, and it is probable that the same nest may be used more than once but not more than once each year.

In counting lots of eggs the number averaged twenty-eight each. Fine plates accompany the paper giving the superficial structure of the stages of development. Unfortunately none of the internal changes are given, and the text is a very brief description of the fifty-one figures.

The author's purpose is to furnish a general account or outline of the forming of the alligator as seen in external features.

"I have been led to do this by reason of the entire lack of any embryological knowledge of the alligator group, and on account of there still being something to be desired in the way of a set of general figures illustrating the development of a reptile."

ENTOMOLOGY.[1]

The Ox Warble Fly.—*The Journal of Comparative Medicine and Veterinary Archives* for June, 1891, contains an article by Dr. Cooper Curtis upon the "Oxwarble in the United States." Dr. Curtis reviews the literature of the subject and shows that what American writers have thought to be *Hypoderma bovis*, is really *H. lineata*. Larvæ of this insect having been found in the œsophagus, under the pleura near the eleventh rib, and in the subcutaneous tissue of the back, led Dr. Curtis to conclude that the life history of this insect is not as has been supposed; i. e. that the eggs are laid along the backs of cattle, and upon hatching, the young larvæ bore into the skin. If no larvæ or "wolves" are found in the backs of cattle until January, it is probable that the eggs are taken into the mouth and the larvæ go from the œsophagus to the back.—HOWARD EVARTS WEED, *Mississippi Agricultural College.*

Spontaneous Ignition of Carbon Bisulphide.—According to a recent issue of the *Scientific American Supplement,* Dr. Max Popel recorded a case in which carbon bisulphide mixed with air was ignited by an arm of the pipe through which it was passing being unscrewed. Dr. Popel has also found that "mixtures of carbon bisulphide and air readily ignite when brought into contact with iron pipes through which steam at ¾ atmosphere (135°—145° C.) is passing, the less carbon bisulphide there is in the mixture the higher is its ignition point, and the sharper the explosion." This substance is now extensively used to clear mills of insects, and the caution is common to see that no fire in any form reaches the rooms where it is in use. The facts above given emphasize the necessity not only of cautioning against fire, but also against the presence of steam or hot water pipes; and perhaps also against making the treatment on a hot summer's day.

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[1] Conducted by Prof. C. M. Weed, Hanover, N. H.

A Collection of Exotic Insects.—I recently had the pleasure of looking over a magnificent collection of exotic insects, owned by Mr. John D. Locke, of Haverhill, New Hampshire; and was surprised to find so rare a lot of insects known to very few entomologists. The collection was purchased by Mr. Locke, who is an enthusiastic naturalist, a few years ago in Vienna, of the widow of a Professor Schneider, the latter having spent a life-time in getting it together. The collection consists chiefly of Lepidoptera and Coleoptera, and contains specimens from all over the world. Many of the butterflies, moths and beetles are of gigantic size: e. g., the Atlas moth from India, which measures 9x6½ inches; *Erebus agropyrus* from South America which measures 10 inches across the wings; *Phaomagigas*, a "lantern fly" which is 10 inches long, and the mammoth Goliath beetles which must be seen to be appreciated. Fortunately the collection is in good hands, and is carefully gone over at stated intervals and kept free from pests and dust.—CLARENCE M. WEED.

Entomological Notes.—The Horn Fly (*Hœmatobia serrata*) according to a recent report from Mr. H. E. Weed, of Mississippi, has appeared in that state in sufficient numbers to attract the attention of farmers. It seems destined to spread widely and rapidly.

Professor A. J. Cook is to spend the Winter in California.

In a recent *Nature* we find this item: "Every one interested in the scientific aspects of agriculture was sorry to hear that Miss Ormerod had felt it necessary to resign her position as consulting entomologist of the Royal Agricultural Society. It is much to be regretted that misunderstandings should have led to the severance of her connection with the Society with which she has so long been honorably associated. Fortunately her work as an entomologist is not to be interrupted, and she will continue to place her knowledge at the service of agriculturists."

The newspapers report that a large manufacturing building at Springfield, Illinois, has been riddled by an insect borer, apparently a small beetle.

MICROSCOPY.[1]

A New Method of Using Celloidin for Serial Section Cutting.—The following has several features which recommend it as preferable to the ordinary methods of section cutting.—It allows a perfect orientation; the entire object is visible during the process of cutting; yolk-bearing eggs offer no serious difficulty; sections of large area and of unusual thinness are easily secured; crimping and curling during the process of clearing are avoided and the sections may be readily arranged in series.

The object is first stained *in toto*, dehydrated, infiltrated with thin, medium and thick celloidin or collodion, (Squibbs Flexible Collodion rendered thick by evaporation is excellent) and finally placed in a paper tray filled with the thick collodion. In a few moments a film will form over the exposed surface of the collodion, when the paper tray with its contents is thrown into a jar of strong chloroform, in which after a few hours, the collodion becomes quite hard. Thus far we have been following only the more ordinary methods.

The tray is now taken from the chloroform and, after the paper has been removed from the hardened block, the collodion with its enclosed object is placed in a vial of white oil of thyme, or some other similar oil. If the block of collodion is not large, in a few hours it will become as clear as glass, the stained object appearing as if suspended in a transparent fluid.

For the process of orienting, the block of collodion may now be taken from the oil, placed in a watch crystal and, after covering with the oil of thyme, examined with a lens or, if more desirable, with a compound microscope. The side of the block that is to be attached to the object holder of the minotome is now selected, wiped dry of the oil and immersed for a moment in ether and then smeared with thick collodion. The object holder, a block of wood rather than cork, is

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[1] Edited by C. O. Whitman, Clark University, Worcester, Mass.